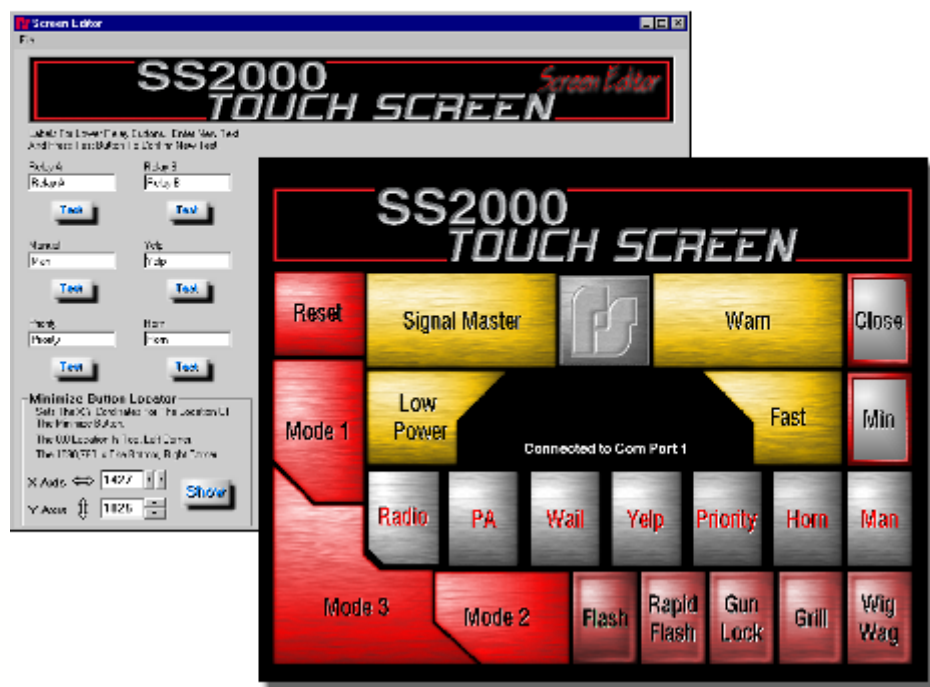


# SS2000 TOUCH SCREEN



Manual

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# 1 SAFETY MESSAGE TO INSTALLERS OF EMERGENCY WARNING EQUIPMENT



## WARNING

**The lives of people depend on your proper installation and servicing of Federal products. It is important to read and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:**

### **Before Installation:**

#### *Qualifications*

- To properly install an electronic siren and lighting system: you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and service of safety warning equipment. Always refer to the vehicle's service manuals when performing equipment installations on a vehicle.

#### *Sound Hazards*

- Your hearing and the hearing of others, in or close to your emergency vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure".
- All effective sirens and horns produce loud sounds (120 dB) that may cause permanent hearing loss. Always minimize your exposure to siren sound and wear hearing protection. Do not sound the siren indoors or in enclosed areas where you and others will be exposed to the sound.
- Federal Signal siren amplifiers and speakers are designed to work together as a system. Combining a siren and speaker from different manufacturers may reduce the warning effectiveness of the siren system and may damage the components. You should verify or test your combination to make sure the system works together properly and meets federal, state and local standards or guidelines.

#### *Light Hazards*

- The lighting products you are installing may contain high intensity LED devices. To prevent eye damage, DO NOT stare into the light beam at close range.
- Glass light bulb and strobe tubes are fragile and can fail. You should frequently inspect the light system to ensure that it is operating properly.
- Over time, roof mounted lighting systems can loosen. Frequently inspect the lighting system to be sure it is securely fastened to the vehicle.
- Halogen lamps and strobe tubes can burst. Always wear hand and eye protection when working with halogen lamps or strobe tubes

- Strobe light systems use high voltage. Always disconnect power from any strobe lighting device and wait at least 5 minutes before servicing the unit.

**During Installation:**

- DO NOT get metal shavings inside the product. Metal shavings in the product can cause the system to fail. If drilling must be done near the unit, place an ESD approved cover over the unit to prevent metal shavings from entering the unit. Inspect the unit after mounting to be sure there are no shavings present in or near the unit.
- DO NOT connect this system to the vehicle battery until ALL other electrical connections are made, mounting of all components is complete, and you have verified that no shorts exist. If wiring is shorted to vehicle frame, high current conductors can cause hazardous sparks resulting in electrical fires or flying molten metal.
- Be sure the siren amplifier and speaker(s) in your installation have compatible wattage ratings.
- In order for the electronic siren to function properly, the ground connection must be made to the NEGATIVE battery terminal.
- Sound output will be severely reduced if any objects are in front of the speaker. If maximum sound output is required for your application, you should ensure that the front of the speaker is clear of any obstructions.
- Install the speaker(s) as far forward on the vehicle as possible, in a location which provides maximum signaling effectiveness and minimizes the sound reaching the vehicle's occupants. Refer to the National Institute of Justice guide 500-00 for further information.
- Mounting the speakers behind the grille will reduce the sound output and warning effectiveness of the siren system. Before mounting speakers behind the grille, make sure the vehicle operators are trained and understand that this type of installation is less effective for warning others.
- Sound propagation and warning effectiveness will be severely reduced if the speaker is not facing forward. Carefully follow the installation instructions and always install the speaker with the projector facing forward.
- DO NOT install the speaker(s) or route the speaker wires where they may interfere with the operation of air bag sensors.
- Installation of two speakers requires wiring speakers in phase.
- Never attempt to install aftermarket equipment, which connects to the vehicle wiring, without reviewing a vehicle wiring diagram - available from the vehicle manufacturer. Insure that your installation will not affect vehicle operation and safety functions or circuits. Always check vehicle for proper operation after installation.
- DO NOT install equipment or route wiring or cord in the deployment path of an air bag.
- Locate the control heads/computer so the vehicle, controls, and microphone can be operated safely.

- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- A light system is a high current device. In order for it to function properly, a separate ground connection must be made. If practical, it should be connected to the negative battery terminal. At a minimum, it may be attached to a solid metal body or chassis part that will provide an effective ground path as long as the light system is to be used.

**After Installation:**

- After installation, test the siren system and light system to ensure that it is operating properly.
- Test all vehicle functions, including horn operation, vehicle safety functions and vehicle light systems, to ensure proper operation. Ensure that installation has not affected vehicle operation or changed any vehicle safety function or circuit.
- After testing is complete, provide a copy of these instructions to the instructional staff and all operating personnel.
- File these instructions in a safe place and refer to them when maintaining and/or reinstalling the product.

**Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.**

## 2 Vehicle Operation

### 2.1 Installing the SS2000 TouchScreen Program

This chapter outlines the procedure for installing the SS2000 TouchScreen operator software on your PC. If you have already installed the software, proceed to the next section Vehicle Operation using SS2000 TouchScreen.

**Before You Begin:**

You will need a copy of the SS2000 TouchScreen Configuration CD from which to load the application.

The SS2000 TouchScreen operator application is supported on PC's meeting the following minimum requirements:

- The table below shows memory requirements for the various versions of Microsoft Windows™ systems. These are based on Microsoft's minimum recommendations - in some cases more memory is recommended for effective operation of the SS2000 TouchScreen software.

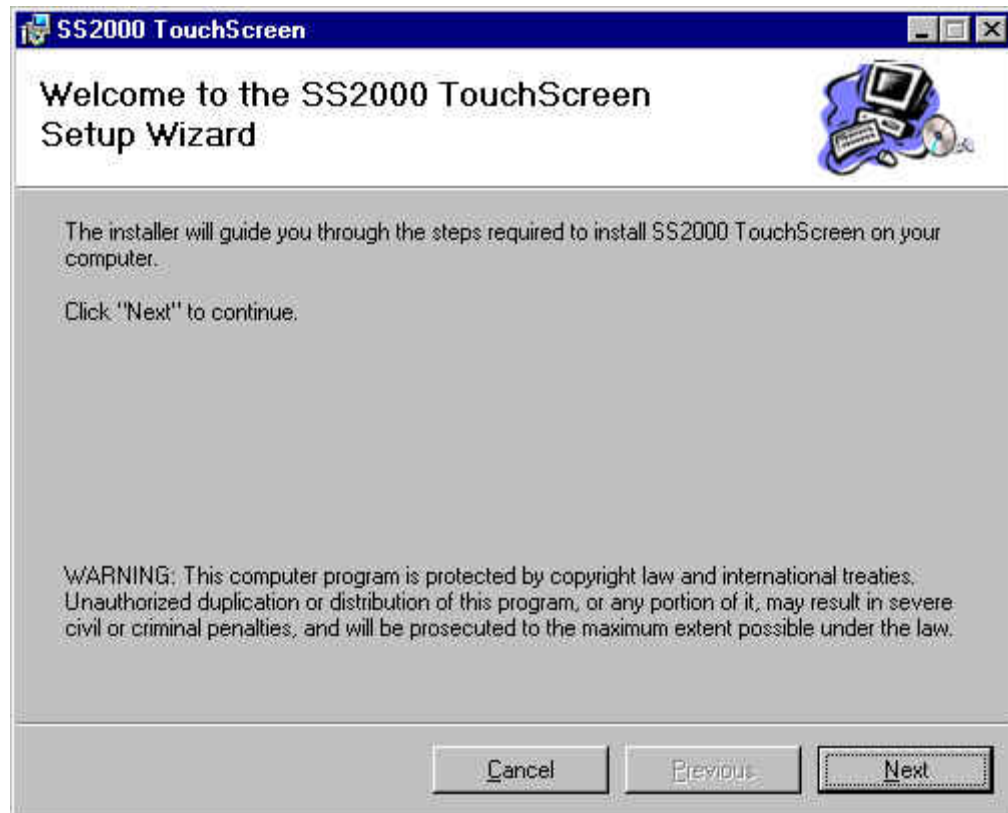
<b><u>Supported Operating System</u></b>	<b><u>Minimum Memory requirements (MB)</u></b>
Windows 98™	64 (128 recommended)
Windows ME™	64 (128 recommended)
Windows NT™ 4.x	128
Windows 2000™	128

- Required disk space for installation of the application is estimated at 15 MB.
- Systems should have a minimum of a 450 MHz Pentium processor.

### Installing the Software:

Follow these steps to install SS2000 TouchScreen Interface software on your PC:

1. Insert the SS2000 TouchScreen Interface software CD into your CD-ROM drive.
2. The SS2000 TouchScreen Interface software CD will automatically\* launch the installation screen.



3. Click the next button on the screen and follow the instructions that will step you through the rest of the installation process.

**\*Note:** If autorun is disabled, or if autorun fails to initiate, browse your computer's hard drive by double-clicking on *My Computer* icon and browsing the CD ROM drive. Double-click on *setup.exe* to install the SS2000 TouchScreen Interface software.

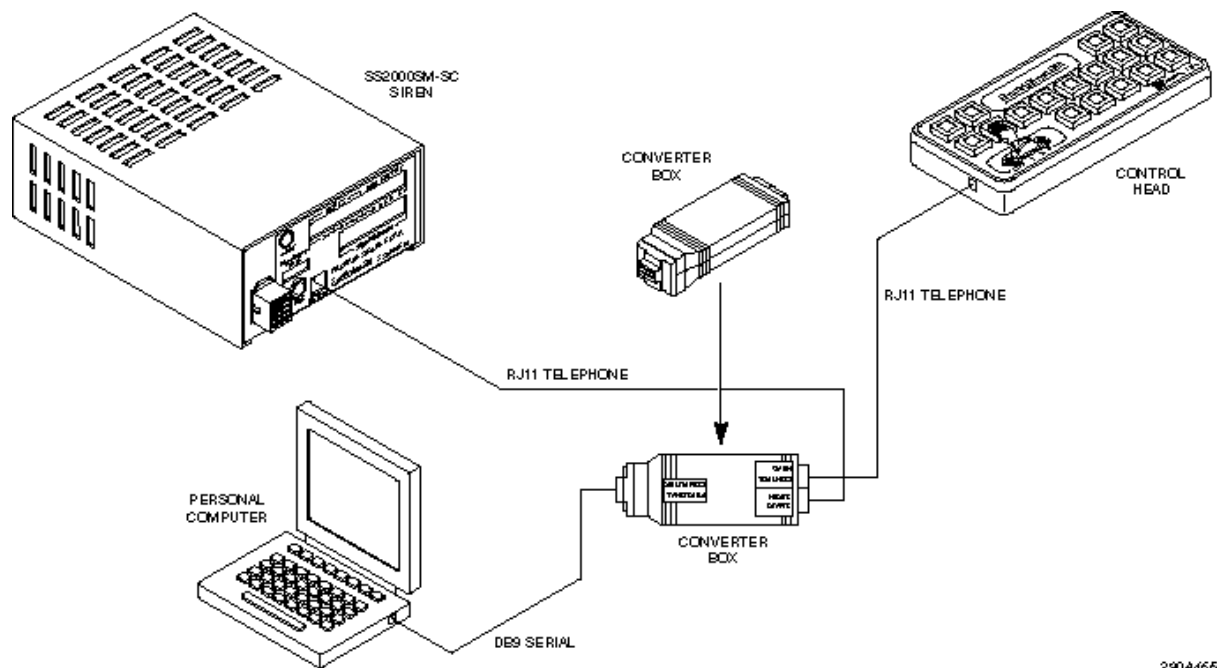
## 2.2 Vehicle Operation using SS2000 TouchScreen

### Before You Begin:

- A SS2000 TouchScreen Interface software must be installed on the vehicle's computer.

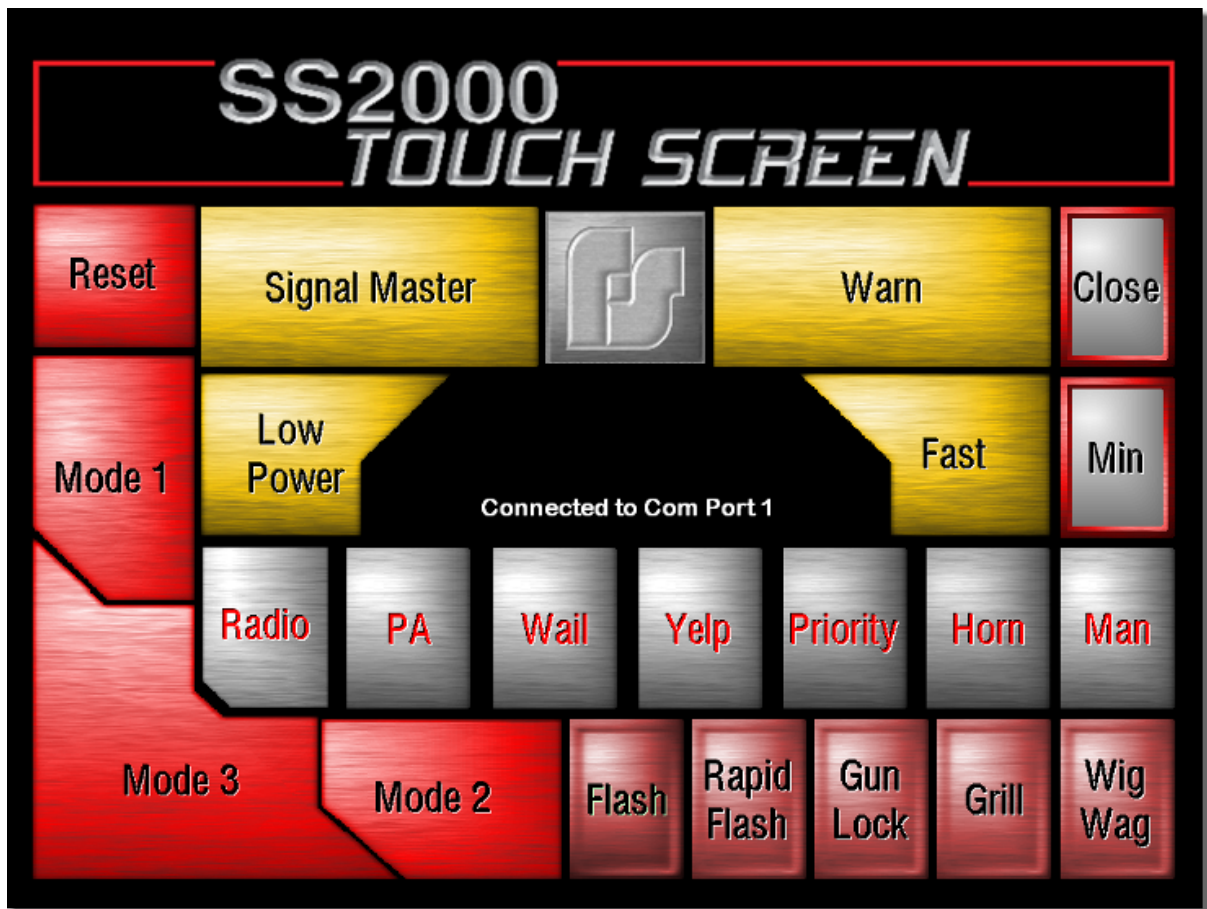
## Connecting the SS2000 TouchScreen Interface Converter Box:

- The connection from the computer to the SS2000 TouchScreen Converter box has to be established. Provided in the Installation is a Serial cable or a USB to Serial cable kit (CP Tech USB PDA/Serial Adapter) that will provide the connection needed for communication to the SS2000 TouchScreen system. In the USB to Serial cable kit is a separate instruction sheet for installing the drivers needed for proper configuration. Connect the 9-pin serial connector or a USB to Serial cable to the serial port on the back of your computer to the 9-pin serial connector on the Converter box. With the kit supplied RJ11 telephone cable, connect the Control Head to the other RJ11 connector on the Converter box labeled Controlled Head. (See Below for connection)



## Running the SS2000 TouchScreen Interface Software:

After the serial connection has been established, start the SS2000 TouchScreen Interface software by double clicking on the desktop icon. When the software starts you will see the screen below which is the default interface configuration for the software.



The default controls are listed below, but can be altered using the Screen Editor explained in the [Configuring the SS2000 TouchScreen Interface](#) section. The controls vary in the amount they can be configured where configurable parameters are the text that is displayed on the button and whether the button acts as a *Push On/Push Off* toggle switch or a *Momentary* activation of the feature, which is controlled through the SS2000 Siren. *Push On/Push Off* buttons act just like a normal switch, push it once and the feature is activated, push it again and the feature is deactivated. *Momentary* buttons activate the feature for a brief interval and then it is deactivated. As mentioned, this is configurable for some buttons and others are permanently configured one way or the other.

#### Relay Buttons

- As shown: A, B, C, D, E
- The relay buttons can be configured for *Push On/Push Off* or *Momentary* depending on the SS2000 Siren configuration. The default is *Push On/Push Off*.
- The text for these buttons can be edited.

#### Siren Controls

- As shown: Radio, Pa, Wail, Yelp, Priority, Horn and Man
- The text for these buttons can be edited.

#### Pursuit Mode Controls



- As shown: *Mode 1*, *Mode 2*, and *Mode 3*
- *Mode 1*, *Mode 2* and *Mode 3* are always *Push On/Push Off*.
- The text of these buttons can be edited.

#### Warning Controls

- As shown: *SignalMaster*, *Warn*, *Low Power* and *Fast*
- Step through pattern controls.
- Visible representation of SignalMaster controls.
- The text of these buttons is not editable.

#### Screen Controls

- As shown: *Reset*, *Min* and *Close*
- The text of these buttons is not editable.

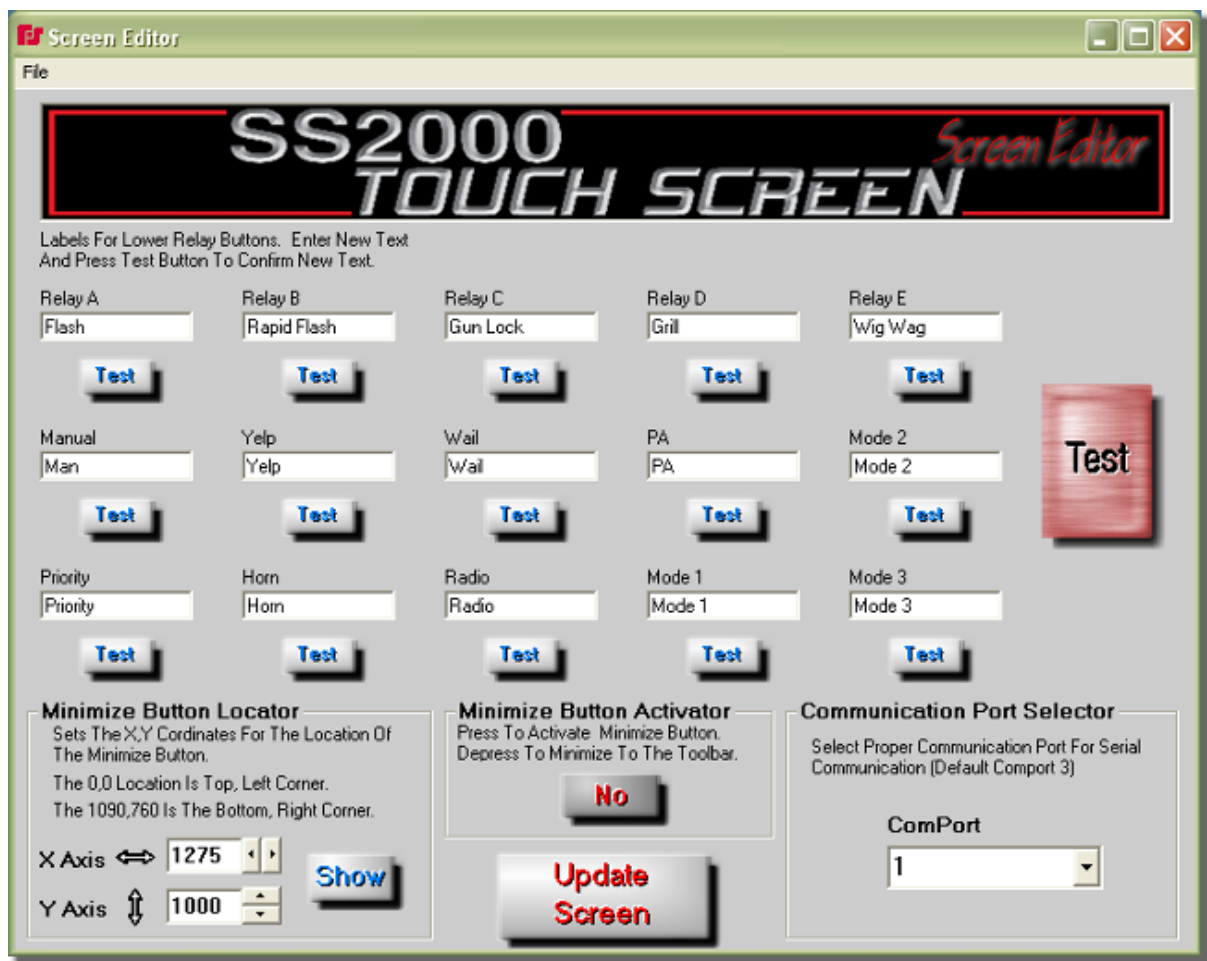
### Standard Factory Software:

<u>Activation</u>	<u>Response</u>
<b>Reset</b>	Clears all siren functions.
<b>Mode 3</b>	Activates Relay A, Relay B ,Relay C, Warn 3 SignalMaster, the Horn Ring Transfer Relay, and enables the Siren. <b>(Configurable Button)</b>
<b>Mode 2</b>	Activates Relay A, Relay B , Warn 2 SignalMaster and the Horn Ring Transfer Relay. <b>(Configurable Button)</b>
<b>Mode 1</b>	Activates Relay A and Warn 1 SignalMaster. <b>(Configurable Button)</b>
<b>Signal Master</b>	Signalmaster Arrow step through (Left Arrow, Right Arrow, Center Out and Off)
<b>Warn</b>	Signalmaster Warn step through (Warn 1, 2, 3, 4 and Off)
<b>Low Power</b>	Button enables once a SignalMaster pattern is active and allows any pattern to be put into low power mode.
<b>Fast</b>	Button enables once a SignalMaster pattern is active and changes the sweep speed of all patterns to a faster rate.
<b>Man</b>	Will produce peak & hold tone when no other sirens are active. If wail or yelp are active, the tone will change to priority for 8-seconds the revert back to the previous tone. Horn Ring will do the same if it is transferred to the siren. <b>(Configurable Button)</b>
<b>Air Horn</b>	Will produce Air Horn tone any time it is pressed. <b>(Configurable Button)</b>
<b>Wail</b>	Wail tone will activate only when the siren is enabled. In the default configuration, only Mode 3 enables the siren. <b>(Configurable Button)</b>

<b>Yelp</b>	Yelp tone will activate only when the siren is enabled. <b>(Configurable Button)</b>
<b>PA</b>	Turns on the user supplied common mic relay to enable the transfer of the radio microphone the siren speaker. <b>(Configurable Button)</b>
<b>Radio</b>	Radio Rebroadcast, sends your radio information over the siren speaker. <b>(Configurable Button)</b>
<b>Min</b>	Minimizes the SS2000 TouchScreen screen to allow the use of other software
<b>Close</b>	Closes down the SS2000 TouchScreen software
<b>Auxiliary Relay (A - E)</b>	Activate the corresponding relays and are all Push On/Push Off type function. <b>(Configurable Button)</b>

## 2.3 Configuring the SS2000 TouchScreen Interface

Start the SS2000 TouchScreen screen editor by clicking on *Start->Programs->SS2000 TouchScreen->Screen Editor*. Once the Screen editor is up and running, it loads the settings as configured for the SS2000 TouchScreen Interface software.



The Screen Editor software is divided into four sections:

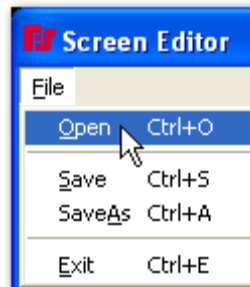
1. **Minimize button locator** - sets the location of the minimized program. Press the *Show* button to see the currently configured location of the minimized program. Move the location of the button by pressing the scroll bars on the X/Y Axis controls or enter new values directly in the location in the text boxes.
2. **Minimize Button Activator** - allow the user to display the minimized "Mode 3" in the lower left corner. If "Yes" is chosen the minimize "Mode 3" button will be displayed. If "No" is chosen the SS2000 Touchscreen will minimize to the toolbar.
2. **Communication Port Selector** allows the user to select the proper communication port on the computer. The default is port 3.
3. **Relay/Siren button text control** allows the user to change the text caption on the buttons. To test a button, press the *Test* button for that feature. You will see the button text appear in the large button to the right of the Test buttons, clicking on this button will toggle between the on/off button text.

## 2.4 Opening an Existing Configuration File

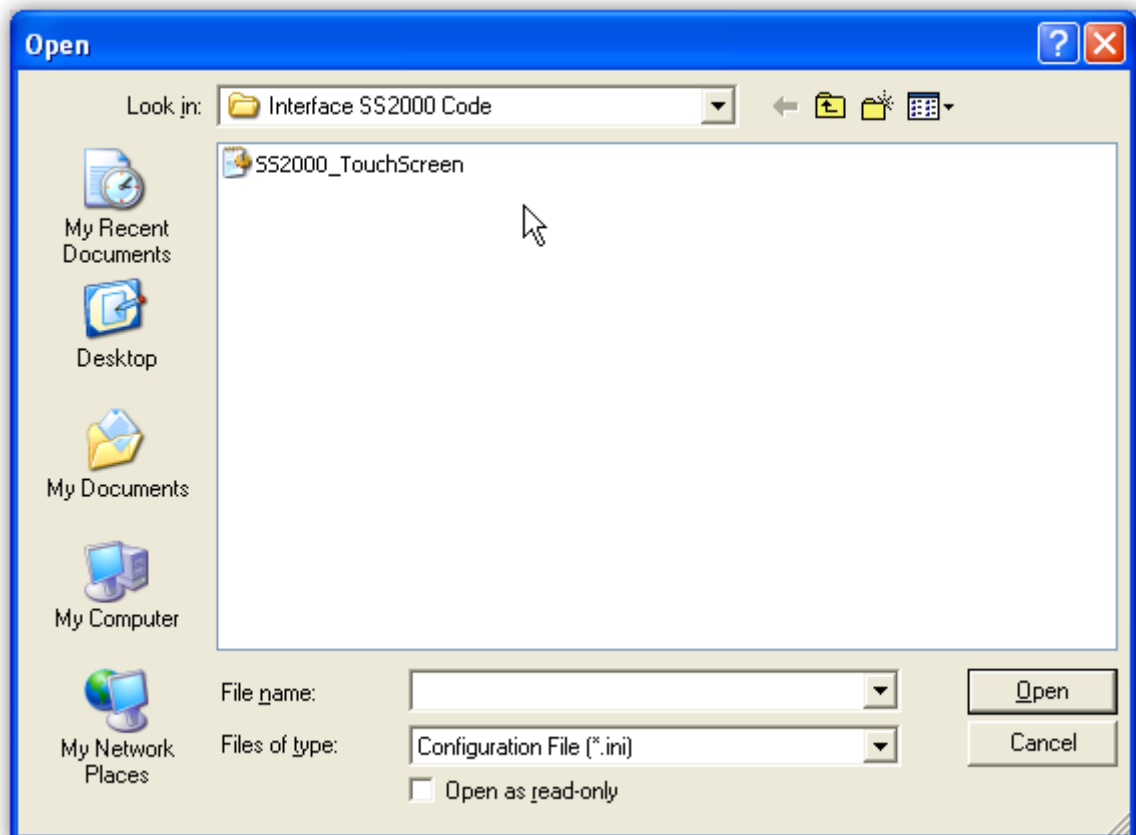
Open an Existing Configuration File:

To open an existing configuration file the user must do the following steps:

1. Select *Open* from the Menu:



2. From file the File Menu, selecting Open will open a "Browse" dialog box



that will allow you to open existing project files, in .ini format. The "Browse" function will look for existing projects in the Default Project Save Directory by default. The user may navigate to other directories on the hard drive, network, or CD-ROM as required to load existing files as with any

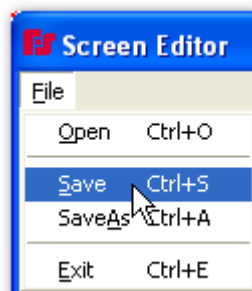
Windows application.

## 2.5 Saving a Configuration File

**Important!** Saving configuration files regularly during edit sessions is a good practice to avoid possible loss in the event of a system failure.

**To Save an Existing Configuration File, the user may do one of the following:**

**Select *Save Project* from the File Menu:**



Selecting *Save Project* from the *File* menu will automatically save the currently active project, using the current filename and file extension.

### Select the *Save As...* Menu

Selecting *Save As...* from the *File* menu will open a dialog box that will allow you to name your currently active project, and to save it to a location of your choice. The default save location is Default Project Save Directory . The default file type is *.ini*. The user may navigate to other directories on the hard drive, network, or CD-ROM as required to load existing files as with any Windows application.

After all changes have been made to the screen, the changes have to be saved. To save your changes, click on Update button located at the lower center of the screen. For the changes to take effect, the SS2000 TouchScreen Interface software must be shutdown and restarted.

## 2.6 Testing After Installation

Before testing, read and understand the supplied Operation and Configuration Instructions. After installation is complete, test all siren and light functions to ensure that all functions and controlled devices operate as intended. Test all vehicle safety features and functions, including horn operation and vehicle light systems, to ensure proper operation.

Programming is described in the Operation and Configuration Instructions supplied with the SS2000 Siren.

After testing is complete, provide a copy of the manual to all operating personnel.

### Sound Hazards

- Your hearing and the hearing of others, in or close to your emergency vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from

longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure".

- All effective sirens and horns produce loud sounds (120 dB) that may cause permanent hearing loss. Always minimize your exposure to siren sound, roll up your windows and wear hearing protection. Do not sound the siren indoors or in enclosed areas where you and others will be exposed to the sound. Only use the siren for emergency response situations.

#### *Sound Limitations*

- Before using the vehicle, check to see if the siren speakers are concealed from view. If the siren speaker is not in clear view on the front of the vehicle, use extra caution when operating the vehicle. A concealed siren speaker installation is less effective at warning others.
- Maximum sound output will be severely reduced if any objects are in front of the speaker. If your installation has obstructions in front of the speaker, drive even more cautiously.
- Frequently inspect the speaker to ensure that it is clear of any obstruction, such as mud or snow, which will reduce maximum sound output.

## 3 Safety Messages

### 3.1 SAFETY MESSAGE TO OPERATORS OF SIRENS AND LIGHT/SOUND



#### **WARNING**

**The lives of people depend on your safe operation of Federal products. It is important to read and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:**

#### *Qualifications*

- To properly use an emergency warning system, you must have a good understanding of general vehicle operation, a high proficiency in the use of safety warning equipment, and thorough knowledge of state and federal UNIFORM TRAFFIC CODES.

#### *Sound Hazards*

- Your hearing and the hearing of others, in or close to your emergency vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure".
- All effective sirens and horns produce loud sounds (120 dB) that may cause permanent hearing loss. Always minimize your exposure to siren sound, roll up your windows and wear hearing protection. Do not sound the siren indoors or in enclosed areas where you and others will be exposed to the sound. Only use the siren for emergency response situations.

### *Sound Limitations*

- Before using the vehicle, check to see if the siren speakers are concealed from view. If the siren speaker is not in clear view on the front of the vehicle, use extra caution when operating the vehicle. A concealed siren speaker installation is less effective at warning others.
- Maximum sound output will be severely reduced if any objects are in front of the speaker. If your installation has obstructions in front of the speaker, drive even more cautiously.
- Frequently inspect the speaker to ensure that it is clear of any obstruction, such as mud or snow, which will reduce maximum sound output.

### *Signaling Limitations*

- Be aware that the use of your visual and audible signaling devices does not give you the right to force your way through traffic. Your emergency lights, siren, and actions are REQUESTING the right-of-way.
- Although your warning system is operating properly, it may not alert everyone. People may not hear, see, or heed your warning signal. You must recognize this fact and continue driving cautiously.
- Situations may occur which obstruct your warning signal when natural or man-made objects are between your vehicle and others. This can also occur when you raise your hood or trunk lid. If these situations occur, be especially careful.

### *Driving Limitations*

- At the start of your shift, you should ensure that the lighting and sound system is securely attached to the vehicle and operating properly.
- If the unique combination of emergency vehicle equipment installed in your vehicle has resulted in the warning system controls being installed in a position that does not allow you to operate them by touch only, OPERATE CONTROLS ONLY WHILE YOUR VEHICLE IS STOPPED.
- If driving conditions require your full attention, you should avoid operating the warning system controls while the vehicle is in motion.

### *Continuing Education*

- File these instructions in a safe place and refer to them periodically. Give a copy of these instructions to new recruits and trainees.

**Failure to follow these safety precautions may result in property damage, serious injury, or death to you, to passengers, or to others.**

## **3.2 SAFETY MESSAGE TO PERSONNEL SERVICING ELECTRONIC SIRENS**



**WARNING**

**The lives of people depend on your proper servicing of Federal products. It is important to read and follow all instructions shipped with the products. In addition, listed below are some other safety instructions and precautions you should follow:**

- Read and understand all instructions in this manual before servicing any of the warning system components.
- To properly service an electronic warning system, you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and service of safety warning equipment. Always refer to the vehicle's service manuals when performing service on a vehicle.
- Electronic circuit and speaker repairs must be performed by a qualified and competent electronic technician.
- Your hearing and the hearing of others, in or close to your emergency vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure".
- All effective sirens and horns produce loud sounds (120 dB) that may cause permanent hearing loss. Always minimize your exposure to siren sound and wear hearing protection. Do not sound the siren indoors or in enclosed areas where you and others will be exposed to the sound.
- DO NOT connect this system to the positive terminal of the battery until servicing is complete, and you have verified that there are no short circuits to ground.
- In order for the electronic siren to function properly, the ground connection must be made to the NEGATIVE battery terminal.
- After repair, test all of the warning system functions to ensure that the system is operating properly.
- Federal Signal siren amplifiers and speakers are designed to work together as a system. Combining a siren and speaker from different manufacturers may reduce the warning effectiveness of the siren system and may damage the components. You should verify or test your combination to make sure the system works together properly and meets both federal, state and local standards or guidelines.
- The lighting products you are servicing may contain high intensity LED devices. To prevent eye damage, DO NOT stare into the light beam at close range.
- Glass light bulb and strobe tubes are fragile and can fail. You should frequently inspect the light system to ensure that it is operating properly.
- Over time, roof mounted lighting systems can loosen. Frequently inspect the lighting system to be sure it is securely fastened to the vehicle.
- Halogen lamps and strobe tubes can burst. Always wear hand and eye protection when working with halogen lamps or strobe tubes
- Strobe light systems use high voltage. Always disconnect power from any strobe lighting device and wait at least 5 minutes before servicing the unit.



**Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.**

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